

# **DETERMINANTS OF AUDITING ELECTRONIC ACCOUNTING INFORMATION SYSTEMS, A CASE STUDY IN THE JORDANIAN COMMERCIAL BANKS**

***Dr. Suliman Hussein Al-Bashtawi***

Associate Professor of Accounting, Accounting Department,  
Faculty of Economics and Administrative Sciences, Jerash University

***Dr. Atallah Al-Husban***

Associate Professor of Accounting, Accounting Department,  
Faculty of Economics and Administrative Sciences, Irbid University

---

## **Abstract**

The study has clarified the determinants faced by the external auditor during the process of auditing different electronic accounting information systems, at which the study included units, IT departments, administration, finance and accounting departments in banks operating in Jordan, which are (19) Banks, which represented the community and the sample of the study; the study has considered the views of a group of managers, employees and workers in the units of information security or accounting business in general. From the analysis of the results of the practical side and the use of the statistical program SPSS, the study has shown the presence of problems and obstacles that the auditor faces, which restrict the required procedures of auditing before auditing the computerized accounting information systems, such as determining the possibility of dealing with the main issues, like conditions of uncertainty, how to determine those conditions and what to do in case they occur, because of the seriousness and their threat as a result of the likelihood of recurrence of the event (incidence of threat).

The study has recommended a set of recommendations, the most important are: increasing auditing procedures required to assess old computers, trying to determine the feasibility of using them in computerized information systems, as well as determining the value of the data or information itself depending on the predetermination of the level of sensitivity of the information of the company, with the need for the auditor to prepare a preliminary report on

risks of control to make sure of the financial accounts or set of operations and risks of various types of auditing, as well as try to reduce them as much as possible.

---

**Keywords:** Computerized accounting information systems, determinants (constraints) of auditing computerized accounting information systems, risks of auditing, the internal auditor's report

## **Introduction**

The importance of revising the electronic accounting information systems appeared as a natural result of a world prevailed in economic blocs, the growing of the volume of world trade, the magnitude of the investments, and the astonishing progress in information technology based on the use of computers and electronic communication systems. The change that has occurred in the world of trade and business environment in the present era, the increase in the volume of operations, its complexity, globalization, information technology, computer revolution, and breadth of the volume of transactions in financial and global markets, those events imposed on the auditor to have the ability to persuade, motivate and adapt to the new situation such as information technology and other developments in the world of information systems and e-mail.

Accordingly, the profession of auditing has witnessed clear and concrete changes in their social, economic, political and technological environment during the recent period, which requires the auditing profession to keep pace with these changes; and in order to be able to do so, a set of basic components must be available, foremost of which is the existence of advanced clear and acceptable auditing standards to keep pace with the recent changes, so as to give confidence to audit services to beneficiaries locally and internationally.

Many of the traditional accounting functions have been merged and included in new systems that require a mixture of technological and accounting knowledge. The accounting information systems are designed to provide this kind of integration of knowledge and sets of skills to face these new challenges and opportunities in the world of information technology and to deal with them. Contemporary organizations require the workers, including executives, managers and workers in the field of accounting and finance, to have sufficient and adequate skills in the areas of computers and computerized information systems. Organizations attempt to use and employ who hold such qualifications and skills related to systems or information technology; several associations and global professional organizations specialized in accounting have announced for its need for concepts of computing and information technology to be part of the knowledge, skills, and abilities for the professions of accounting.

Such associations and organizations declare that the career of professionals in the accounting field should be able to apply the software of produced development and improvement, such as spreadsheets and specific accounting software, and should be able to interpret the integration and application of information technology. Also, accounting information systems link the skill sets in two specializations and areas of growing and changing expertise rapidly, namely, accounting and information technology.

### **Problem of the Study**

This study attempts to answer the following questions:

- 1 - Is there determinants (constraints) limit the audit procedures necessary to audit computerized accounting information systems?
- 2 – How does the accounts auditor deal with the risks of auditing when using computerized accounting information systems?
- 3 - What are the elements of the internal auditor's report when checking computerized accounting information systems?

### **Hypotheses:**

Based on the problem of the study, the following three hypotheses will be developed:

- 1 – There are determinants (constraints) limit the audit procedures necessary to audit computerized accounting information systems.
- 2 – The accounts auditor does not deal with the risks of auditing when using computerized accounting information systems.
- 3 - There are no elements of the internal auditor's report when checking computerized accounting information systems.

### **The Importance of the Study**

In light of the technological development of electronic calculators, and using them in the development of information systems in corporations, different types of electronic accounting information systems appeared, which have had a crucial impact on these companies. Hence, the auditor needs to study and understand the types of electronic accounting information systems and the risks surrounded by, as well as the obstacles that work to reduce audit procedures necessary to audit the computerized accounting information systems; in addition to a study has impact from the regulatory perspective on the company and on the degree of clarity of data and information within the e-accounting information system of the company, and the existence of distortions of relative importance and thereby increase the auditor's ability to achieve the objectives of the review process in the light of these variables.

### **The Objectives of the Study**

This study attempts to achieve the following objectives:

1 - To identify the determinants (obstacles) that limit the audit procedures necessary to audit computerized accounting information systems.

2 – To determining the risk of auditing of computerized information systems by identifying the steps and types of auditing risks and its impact on the audit process in an e-business environment.

3 – To identify the nature of internal of the auditor's report in accounting information systems environment and determine the extent of adopting it by the external auditor.

### **Theoretical Side**

It is well known that the system reflects a combination of tangible and intangible elements (such as the set of principles and procedures), which operates in a balanced manner in light of a network of communications that will help the flow of information, to ensure the behavior that must be used by the system to achieve the goal or set of targeted goals (Hajar, 1997, p 29). While (Ayoub, Mashq 1988, p 25) and (Eldahrawi, 1987, page 1) considered it as an operation of operating and analyzing the data are processed and formed to provide managers with information necessary to help them in the implementation of the business, and decision-making within the organization, so that this information will be adequate in terms of quality, timeliness and cost, as they express economic events and facts, which confirms that it is working to increase the ability of users to take appropriate decisions.

Regarding the accounting information system, the accounting system works to produce financial and quantity information, because it does not represent the only source of numbers, but it considers the non-quantitative expression for economic events that relate to business organizations that serve its users (Al-Khatib, 1993, p 18).

The accounting information has great importance as it is measured mainly by Monetary unit which is characterized by an advantage over other units of quantification for that it is characterized by a high degree of accuracy; also the accounting system contains policies and standards for internal control, assist in the interaction with all the other management, productivity and marketing systems; as well as, the accounting information has the benefit of the level of logic as it is characterized by an extent of regularity and arrangement. This feature is represented by the regularity of records and accounting forms lead to contain the output of the accounting system (accounting information), often patrol concurrent with the need for it (Al-Hasoon and Qaisi, 1991, p 36).

As well as, the accounting information has multiple properties such as, relevance, confidence, comparability, understandability, flexibility (Rehan, 1994, p. 49). Also, it has determinants associated with events and only financial and economic transactions, as well as it is built on assumptions and principles make the explicit values conflicting with reality. Besides, it has a special status of other information linked with a special language for understanding with all its terms and underlying assumptions and principles, and this would reduce the understandability by non-specialists in accounting (Al-Hasoon and Qaisi, 1991, p 37).

The concept of auditing accounting information systems came as one of the modern concepts in the area of audit-mail, which care for the use of modern technologies in the field of audit to be used as a tool for auditing. As well as it aims to help the administration in the companies to understand the environment in which the company operates in order to assess the risks and opportunities of these new technologies and their impact on achieving the objectives of the company, and provide the necessary information to make decisions in the appropriate time (Al-Husban, 2009, p 76). He also stressed on that concept ((IIA., p2)) which shows the important role in the field of addressing the knowledge, skills, the ability to review and assess the evolution, as well as running the components of information systems, either for the internal auditor or external auditor. In addition, the role played in the use of computer, communication, computer networks, data and information, means of saving them by modern and advanced means.

The use of computers in the accounting business environment shows significant impact on accounting information systems used inside companies, some of which have maximum effect on the operating speed, the easiness of recall, large potential storage in a small space, as well as the important effect in data processing efficiently, improve and facilitate additional analysis of information, increase information quality and flexibility in reporting both in terms of form or timing; finally the important role appears in the decrease of computational and operational errors due to lower reliance on the human element and the easiness of discovering it (Al-Fayoumi, 1993, p 250).

The computerized accounting information system is characterized by the use of identical ways, methods and procedures according to generally accepted accounting principles and assumptions, which is run by an uneven combination of robot and human effort that leads to the provision of information of an economic nature that cannot serve in the field of decision-making. There is a substantial difference between the manual accounting system and the computerized lies in the mind port of things, it means that, in the manual

system, the human through the use of his mind and his innate intelligence, analyze things and then make decisions and apply them in accordance with known policies and procedures, as he may be right or wrong, and the error is corrected when discovered. But in the computerized system, the electronic mind is used, which is designed by humans; this mind carries out orders placed in advance by a human. In other words, it cannot make mistakes, this mind cannot analyze but can only perform the analysis mechanism plotted in advance and then implemented according to the policies and procedures set in advance, and it cannot override any plans set by humans. (Barry E. Cushing; & Marshall B. Romney; 2009 P.: 753)

This does not negate expecting defects and errors in any human system, where the computerized accounting information systems are not free of errors that can occur in addressing some of the data, allow the unauthorized change in programs, the ease of destroying data or change the contents as a result of unauthorized crossing, in addition not to allow the use of manual control and the possibility to take advantage of its benefits. (Thomas, Ratcliffe, 2000).

### **Risk of Auditing on the Accounting Information Systems**

Risk of auditing is identified as “the probability that the auditor has an inappropriate professional opinion on the financial statements which he audits, so the auditor does not give an opinion on data containing an important error to be discovered, and such error can occur with any auditor even if he plans for auditing procedures very carefully.” (2002 Taylor), and this risk has a variety of forms, including significant risks, control risks and risks of discovery.

Avoiding the risk of audit or avoid IT environment problems is considered of the necessities needed for the internal control system, in terms of providing security requirements and maintaining this information, activate controls on networks and make sure of its readiness and effectiveness; as well as the presence of appropriate user to determine the regulations, and all this require meeting the new staff and identify their backgrounds on their ability to deal with the risks of information technology before the process of employment, (Lawrence, 2002).

The assessment of the level of effectiveness of the internal control system is one of the tasks of the external auditor, and here an additional important task of the auditor found require the presence of experience and knowledge in the field of computer and information technology to be able to perform the task in the required level, and the main procedures of this task are: Get a list of devices, equipment and specifications, and the form of networks associated with them, and request a list of personal, scientific and employment information

for workers in the computer system, the powers and responsibilities of all of them, study the organizational structure of the project, note programmed maintenance program and sudden debugging for equipments and computers (Aziz and Shara, 2002).

From the foregoing, it can be said that it is difficult to eradicate the risk of audit, but the auditor must try to reduce it, especially in light of the information technology environment that is not without risk. Therefore, the auditor of information technology should take into account the various types of auditing risks and try to mitigate them as much as possible, from the changing of the environment surrounding the company and changes in the company's business and activities in the light of information technology.

**Risks of Auditing Computerized Accounting Information Systems: (Jacobson, Robert, 2002,P9)**

Any sophisticated and modern system as the accounting information system, especially with its associated various steps in the area of E-audit, it contains the apparent operational risk result from following-up and monitoring the performance, where studies have shown different types of risks resulting from auditing computerized information systems concentrated mostly in the areas of processing and displaying data, information and forms of use, and it can be summarized in the following points:

1 - Identify risks that cause weakness and imbalance in the company's core activities, and the resulting monetary loss.

2 - Determine the possibility of loss (loss that is appropriate for risk), including risks of jobs and those relating to assets, preferably to be expressed in monetary form.

3 - Determine the monetary amount of the loss or weakness that results from a threat (and this is related to the second point).

4 - Determine the threat that is resulted from the likelihood of recurrence of the event (incidence of threat), and is expressed annually.

5 - Determine the possibility of dealing with the main issues of the seriousness: conditions of uncertainty, how to determine those conditions, and what to do if happened.

6 - Identify cost efficiency either by using the rate of return on investment, or by using cost-benefit.

**Steps of Dealing with Risks of Auditing Computerized Accounting Information Systems**

There are seven sequential steps that should be taken into account by the auditor to review the computerized information systems in the presence of risk that can be handled: :(Randy, Marchany , 2002)

1 - Identify information assets, important asset for each department must be identified, and these important assets include: computer hardware, software, systems and related services, as well as related technology.

2 – Compile and establish priorities for those assets after the completion of the first step; the second step is to arrange assets according to their importance, whether they are very sensitive so you cannot accomplish any work without them, or insensitive. But the second place is appropriate information can be dispensable for several days and not more than a week. The third and final place is for the regular dispensable information at which business activities can be done without it for a long time.

3 – Identify the risks; and here each department identifies the risks, whether these problems or threats are specific or non-specific. The risk must be concrete and specific to one or more of the assets.

4 - Prioritize risks according to their importance, and this gives the departments an idea about the places of events that need to be planned, and also working to develop a sequence of steps, making the process of managing it more easily. So that the sensitive risk is put at the top of priorities.

5 - Develop a list containing the risks; here the members of the team in charge identify the risks with clarifications and details in favor of it, relying on the knowledge they have about those risks.

6 - Return to the risk according to sensitive assets (sensitive information); in this step the team work puts a list of sensitive assets (most at risk) in order of priority in a detailed part of the risk assessment report. This helps departments to propose appropriate solutions to these risks, and implement plans to protect those assets.

7 - Make appropriate recommendations to find solutions to those risks.

Despite the lack of a final solution to the risk of auditing information technology, there are some proposals that must be carried out by the internal audit and internal control system to reduce these risks, namely: (Lawrence, 2002)

1 - Identify the important and sensitive information at work.

2 - Provide an honest provider and external auditor to assess the risks and determine the cost of protecting a valuable asset to the company.

3 - Nominate one person to be responsible for information security management in the company.

4 - Appointment of a cadre of qualified staff in the IT audit to review the policies and procedures of information security.



5 - Provide a training program for staff cares about contemporary issues for information technology.

6 – Provide the device of auditing with the basics of dealing with information security, specifically sensitive information.

7 - Provide independence and evaluation, whether for internal or external auditors.

### **Determinants and Constraints of Computerized Information Systems Audit**

There are three areas could hinder the procedures of auditing computerized accounting information systems or limit it, namely:

**First: the field of information security:** the auditing device at the company must have resources that would enable it to assess the security of information and the ability to respond to the risks, so the Department of Information Technology and the internal control system in the companies can take the following actions to ensure the security of information in it: (Lawrence, Richter, Risky Business: p5)

**Safety awareness and perception:** by ensuring that IT security is under control, assessing staff knowledge of the policies and standards, and determining whether the risks of information technology are continuing or not.

**Safety of procedures:** through the application of control and documentation of information technology, the identification of people authorized to change the data, and the determination of how the employee can respond to emergencies in information security if occurred.

**Ensure documentation:** by identifying powers with specific people, and observing those who operate the systems.

**Safety of passwords:** through the length and complexity of those words and not to write them on sites known to staff.

### **Second: Field of Ready Accounting Software**

Auditors must understand the need to know the design and development of programs, address them and how to test them, in order to ensure the survival and continuing of programs in the company, as well as the possibility of determining the period that these programs can remain relevant to the activities and business of the company, which helps to learn how to change the system of control over those programs, determine the required duration for maintenance, ensure the availability of adequate spare parts, in addition to conducting periodic review to ensure the continuation of these programs, as well as identify changes that occur in the company and the surrounding environmental conditions.

The internal auditor should ensure that the accounting software have maintenance and insurance period and to try increase it as much as possible; as well as ensure the availability of pieces needed to run accounting software at the company and the market, the possibility of identifying risk possible to happen in dealing with these programs and the extent those programs conveying changes in the work and activities of the company. In addition, ensure information security policies and their suitability for those programs, and these programs verify the benefits of employees and provide the ability to get cadres to work and continue with this ready accounting software. (Al-Husban, p 124)

### **Third: Field of Documentary Authentication Procedures**

The documentation process serves auditing mainly by providing support to the auditor's report, helping him to supervise and manage the audit and understanding the process of testing documentation, to ascertain whether they are consistent with internal control policies and their procedures. There are some issues related to documentation in the auditing of accounting information systems such as: appropriate selection of the documentation process, the application of accounting principles and disclosure on the preparation of financial statements, and the difficulty of making auditing measures that are deemed necessary by the auditor, in addition to some other things that can contribute in changing the auditor's report (Whittington , Ray , p 3).

### **The Internal Auditor's Report in Accounting Information Systems**

The report of the Internal Auditor must be clear, unambiguous, its contents are formulated by a smooth and clear language, characterized by objectivity, focus on a particular goal, and should contain recommendations and suggestions for improvement and identify deviations of various kinds. In addition, it should contain explanatory means such as explanation, summary and perhaps graphs. As a result of the developments of the work and activities of the company, there are suggested ways for audit managers aim to improve their auditing reports, including: (Dahmash, 2001)

1 - Identify and clarify the properties of the report that meets the needs of the parties subjected to scrutiny.

2 – Deliver the procedures and expectations of auditing reports to employees.

3- Use standardized samples of the report.

4 - Work on increasing reliance on the staff personally in writing the report.

5 - Assistance in training new members of staff in writing the report.

While the characteristics of the internal auditor's report in the IT work environment, it includes:

1 – Provide an automated link between the accomplished work and information gathering and auditor assessments and information used in the company.

2 - Provide routine information (in electronic form), on sections that were audited by internal audit staff for information technology systems.

3 - The report allows supervisors to detect problems and try to provide appropriate resources for their solutions.

4 - The report includes the connection methods for auditors' documents of working papers and graphics, as well as to collect information about changes in the company's business resulting from the information technology.

5 – Making the report with the participation of internal audit in the company with its management through the censorship to determine the people authorized to have access to the report of the internal auditor.

6 - The report contains a confirmation of information security policies and the reliability of the information, as well as it identifies work-related hazards that mostly resulting from information technology.

Perhaps one of the most important points that business organizations focus on is the provision of high-value information and of a high degree of reliability to be coupled or secured from several sources, and this is the essence of information technology. Therefore, the presence of an external auditor eases reviewing the information, and increases customer confidence who deal with the company, especially the owners, because the information and changes thereto is monitored by a third-party. When the information is tested using computer tools, the information stored on it is recognized and understood; so the role of the auditor, concerning the information on the computer, is played by identifying weaknesses in the internal control system, and auditing the unreasonable high salaries, especially with regard to departments of information systems and departments of information technology company (Dalal, 2000).

The external auditor should review the company's policies to ensure its comprehensiveness, and thus in turn supports the concepts of control and information security. This gives the auditor the ability to review information security policies in the computer system and its relevance with company policies in general. So the internal control system is responsible for setting standards and implementing them, where the role of the external auditor in the IT environment is to be responsible for: determining the adequacy of standards, and determining the suitability of those standards to the company. In general, the auditors look at the policies according to the role they play in the IT environment, in terms of

the level of security and required confidentiality and identify access to information for those who have the right to do so; in addition to the impact of technology on the stability and culture of the company (Oliphant, 1998). To achieve this, the auditor should be trained in possession and a career that qualifies him for auditing accounts related to information technology. The most important qualities that should be available in the auditor in order to adapt to the conditions of information technology are (Dahmash, 2002):

- 1 - The ability to debate, persuade and deal with others.
- 2 - High intelligence and mature stable emotions.
- 3 – Courtesy, politeness and social awareness.
- 4 - The ability to communicate and deal with others.
- 5 - The ability to learn, secrecy and confidentiality.

### **Community and Sample of the Study**

The study included units, IT departments, administration, finance and accounting departments in banks operating in Jordan which are (19) Banks that represented the community and the sample of the study. The study has targeted the views a group of managers, employees and workers in the units of information security or business accounting in general. They were communicated by websites of banks, telecommunications and personal interviews in the workplace; they numbered about (395) employees, at which a sample was selected randomly from them to ensure inclusiveness of all communities of the study. The two researchers distributed (200) questionnaires on the sample covered the study population; (8-11) questionnaires were distributed in the samples in each bank at which (185) were returned; the 175 questionnaires were accepted for the purposes of statistical analysis.

### **Display and Analysis of Data**

**The study tool, sincerity and stability:** through access to literatures that dealt with the subject of auditing determinants in the environment of accounting information systems, the two researchers have developed a questionnaire for measuring the dimensions of the determinants of auditing in an environment of computerized accounting information systems and consists of two parts; The first part dealt with personal information such as academic qualification, practical experience and work field in order to identify the general features of the study sample, and through the discussion of those properties, it was shown that the study sample are qualified scientifically and practically, which means there is validity and reliability in understanding the paragraphs of the questionnaire. The second part consists of (40) paragraphs, each paragraph was given five weights by Likert scale, and these paragraphs were divided into three parts which are the variables of the study; so that each variable has

been expressed by questions through which the two researchers were able to deny or prove hypotheses - was explained later. Rationale honesty for this questionnaire was assured through displaying them on some arbitrators and has been modified based on the views of arbitrators which serve the opinion and aspirations of researchers to be consistent with the study variables.

Cronbach Alpha has been extracted to identify the degree of internal consistency for the answers of the study sample, which was worth 81% which is higher than the standard percentage 60%, and this means the possibility of relying on the findings and recommendations of the study, meaning that if another sample participated in answering the paragraphs of the questionnaire, the possibility of getting the same results will be 81%.

### Characteristics of the Study Sample

**Table (1)** the distribution of the study sample according to the characteristics of the study sample

Classification	According to	List	Frequency	Percent
First	Qualification	Diploma	64	36.6
		Bachelor	98	56.0
		Postgraduate	13	7.4
Second	Years of Experience	Less than 5 years	89	5.09
		From 5- to less than 10 years	29	16.6
		From 10- to less than 15 years	35	20.0
		From 15 – to more	22	12.6
Third	Working Field	Technical work	7	4.0
		Accounting work	30	17.1
		Auditing work	16	9.1
		Financial work	122	69.7
Fourth	Career Level	Employee	98	56.0
		Head of department	64	36.6
		Manager	13	7.4

Table (1) shows that the members of the study sample represent in terms of qualification that the proportion of the majority is of those who hold a bachelor's degree by 56%, and this means that more than half of the members of the study sample hold a bachelor's degree, and this is a positive indicator of the results and recommendations of the study; it is also noted that the higher studies is by 7.4% and this indicates that the paragraphs of the questionnaire were understood well by the members of the study sample.

As can be noted from the table in terms of the variable of years of experience, the greatest proportion is for those whose experience is between 10-15 years by 20%, and this may explain that banks give good incentives, which means that the employee continues to work, that also means stability and thus receiving higher salaries and incentives; this feature gives the study a positive feature in the answers of the study sample in terms of job skills and invest previous experiences in finding the difference in the application of modern technology tools in the audit, which is reflected positively in the knowing the transformation of the

accounting system in the Jordanian commercial banks – knowing that there is a varying percentages of other segments of the service period with convergence of that disparity.

It can also be noted in terms of the employment variable that the highest proportion is for accounting work followed by the financial work, and this shows that the paragraphs of the questionnaire directed mainly to specialists in finance and accounting matters; moreover, the population of the study is the banking sector, so it is natural that the financial work is in this ratio. Regarding the level of career, the proportion of employees are the highest and represents 56% which is a large proportion, at which the number of questionnaires that were excluded is from the category of staff, this may be a positive indicator for their qualifications and expertise which will reflect positively on the sincerity of the results and recommendations of the study.

### Discuss the Statistical Results

**Table (2):** the views of the study sample on the variable of constraints that limit the necessary audit procedures to audit computerized accounting information systems

Serial	Paragraph	Arithmetic mean	Standard deviation
1	Be sure that IT security is under control.	3.5829	1.37412
2	Be sure to assess the knowledge of staff in policies and standards.	3.4743	1.33398
3	Be sure to determine whether the risks of information technology are continuing or not.	3.4229	1.31024
4	Be sure to apply control and documentation of information technology.	3.3886	1.59460
5	Be sure to select people authorized to change the data.	3.4571	1.42520
6	Be sure to select how the employee can respond to emergencies in information security if occurred.	3.4571	1.45315
7	Identify specific authorities for specific people.	3.1371	1.23342
8	Observe those who operate the systems.	3.0743	1.28214
9	Emphasize accuracy of passwords, length and complexity.	3.0800	1.27053
10	The company has the ability to get qualified staff to work and continue with this ready accounting software.	3.0057	1.31524
11	Taking the interests of staff into account is not being assured through information security policies and their suitability for such programs.	2.9486	1.21895
12	Keep up with those programs to changes in the work and activities of the company are not assured.	2.8686	1.24563
13	Be sure to provide the necessary pieces to run accounting software of the company and the market with the ability to specify Possible risks in dealing with those programs.	3.8114	0.93088
14	Internal Auditor does not hold confirmation that the accounting software has insurance and maintenance period, and try to increase it as much as possible.	2.9314.	1.20625
15	There is no recognition by the auditors to enhance the need to know the design and development of programs, addressing them and how to test them.	2.7886	1.16751

16	There are no matters that focus on the appropriate selection of the documentation process - in light of the use and application of computerized accounting information technology - and the application of accounting principles for the preparation of financial statements as well as the disclosure of the relating thereto.	2.9371	1.15547
17	There are no further matters relating to the results of the audit procedures indicate that the financial statements have errors and these data need to be modified.	2.9657	1.20772
18	There are no matters causing difficulty to auditor to use audit procedures may deem necessary.	3.5657	1.24563
The total arithmetic average		3.2165	

Table (2) shows that the paragraphs (from 1 to 10 and paragraph 13), came with an arithmetic average between (3.8114) and (3.0800), which is higher than the suppositional mean 3, while answers came with a standard deviation range between (1.59460) and (0.93088). These paragraphs provide procedures followed to reduce the obstacles that limit the audit procedures necessary to audit the computerized accounting information systems, at which the questions came in a format enables them to obtain reliable data, as well as answers to the rest of the paragraphs where questions came in the negative form, and focus on not to take actions that limit the constraints of auditing procedures in the environment of computerized accounting information systems; the sample members' answers were to reject and with an arithmetic mean less than the suppositional mean 3, where averages were between (2.9657) and (2.7886); While answers came with a standard deviation range between (1.24563) (1.24563) - This underlines the measurement bias in the sample answers. That was emphasized again when they were asking about the lack of things that cause difficulty for the auditor using audit procedures may deem necessary - paragraph (18) where the sample members' answers with an arithmetic mean of (3.5657) and a standard deviation of (1.24563) higher than the suppositional mean (3).

**Table (3):** the views of the study sample on the variable of auditing risk

Serial	Paragraph	Arithmetic mean	Standard deviation
1	The auditor makes a preliminary report about risks of control to make sure of every financial account balances or set of operations.	3.2171	1.23584
2	A cadre of qualified staff is employed in the IT audit to review the policies and procedures of information security.	3.4629	1.15845
3	The auditor has expertise and knowledge in the field of computer and information technology, so that he is able to perform his task in the required level.	3.4743	1.14378
4	The audit team is provided by the policies of dealing with information security, and important information related to computerized information technology specifically.	3.4857	1.15399
5	Work on controlling the communication networks, in order to ensure that the information on networks is correct	3.3429	1.12298

	and not false.		
6	The Information Technology Auditor takes into account the risk of various types of auditing and tries to limit them as much as possible.	3.1200	1.31848
7	The possibility of loss (loss appropriate for risk) is identified, including risks of functions and those relating to assets, preferably to be expressed in monetary form.	3.4400	1.18690
8	Risks that cause weakness and imbalance in the company's core activities, and the resulting monetary loss are identified.	3.5829	1.10002
9	The monetary amount of the loss or weakness that results from a threat (and this is related to the second point) is determined	3.5371	1.16340
10	Threat that results from the likelihood of recurrence of the event (incidence of threat) is determined, and is expressed annually.	3.1657	1.25073
11	The possibility of dealing with the main issues of gravity: conditions of uncertainty, how to determine those conditions, and what to do if they occur is determined.	3.1486	1.27337
12	Cost efficiency is determined either by using the rate of return on investment, or by using cost-benefit.	3.8743	0.93843
The total arithmetic average		3.4043	

Table (3) shows that all paragraphs had arithmetic mean ranges between (3.8743) and (3.1200), which is higher than the suppositional mean 3, while the answers came with a standard deviation range between (1.31848) and (.93843), at which the questions were about the requirements that should be available to the auditor to reduce the risks that could the auditor face.

**Table (4):** the views of the study sample on the variable of internal auditor's report

Serial	Paragraph	Arithmetic Average	Standard deviation
1	Does the internal auditor's report provide an automated link between the accomplished work, collecting information, auditor's assessments and information used in the company.	3.1657	1.21342
2	Does the internal auditor's report help to provide routine information (in electronic form), on sections that were audited by internal audit staff for information technology systems.	3.5886	1.05693
3	Does the internal auditor's report include the connection methods for auditors' working documents and graphics, as well as collect information about changes in the company's business resulting from the information technology .	3.7829	0.98771
4	Is the internal auditor's report prepared with the participation of the company's internal audit team and its management, through the censorship to determine the people who are authorized to have access to the report of the internal auditor.	4.1543	0.91235
5	Does the internal auditor's report contain the confirmation of the information security policies and the reliability of the information, as well as identify work-related hazards resulting mostly for information technology.	3.8743	0.93843
6	Are the report's properties that meet the needs of the parties subjected to scrutiny identified.	3.1886	1.23358



7	Are procedures and expectations of audit reports delivered to employees.	3.6114	1.07098
8	Do they use standard forms of the report.	3.8057	0.99826
9	Are they working on increasing greater reliance on staff personally in writing the reports.	4.1714	0.91870
10	Is there any assistance in the training of new members of staff in writing the report.	4.1371	0.92447
The total arithmetic average		3.7480	

Table (4) shows that all paragraphs had arithmetic mean ranges between (4.1714) and (3.1657), which is higher than the suppositional mean 3; while the answers came with a standard deviation range between (1.23358) and (. 91235), at which the questions were about the ingredient that should be available in the auditor's report when auditing computerized accounting information systems.

### Test Hypotheses:

**The Results of Testing the First hypothesis: There are determinants (constraints) limit the audit procedures necessary to audit computerized accounting information systems.**

The following table (5) shows the results of testing the first hypothesis.

Hypothesis	T-calculation	T Cross tabulation	T-SIG	Hypothesis result
obstacles or determinants of audit procedures	3.341	1.96	0.001	reject hypothesis

Based on the results of testing the first hypothesis, table (5) shows that (T calculation = 3.341) and (T- cross tabulation = 1.96); and as T-calculation is greater than T- cross tabulation, the hypothesis is rejected and the alternative hypothesis is accepted, which states: **there are no determinants (constraints) limit the audit procedures necessary to audit computerized accounting information systems.**

**The Results of Testing the Second Hypothesis: the auditors do not deal with the risk of audit when using computerized accounting information systems.**

The following table (6) shows the results of testing the second hypothesis.

hypothesis	T-calculation	T Cross tabulation	T-SIG	Hypothesis result
Risks of audit	5.891	1.96	0.000	reject hypothesis

Based on the results of testing the second hypothesis, table (6) shows that (T calculation = 5.891) and (T- cross tabulation = 1.96); and as T-calculation is greater than T- cross tabulation, the hypothesis is rejected and the alternative hypothesis is accepted, which states: **the auditors deal with the risk of audit when using computerized accounting information systems.**

### **The Results of Testing the Third Hypothesis: There are no elements of the internal auditor's report when auditing computerized accounting information systems**

The following table (7) shows the results of testing the third hypothesis.

hypothesis	T-calculation	T Cross tabulation	T-SIG	Hypothesis result
Elements of the auditor's report	13.119	1.96	0.000	reject hypothesis

Based on the results of testing the second hypothesis, table (7) shows that (T calculation = 13.119) and (T- cross tabulation = 1.96); and as T-calculation is greater than T-cross tabulation, the hypothesis is rejected and the alternative hypothesis is accepted, which states: **There are elements of the internal auditor's report when auditing computerized accounting information systems.**

### **Results and Recommendations of the Study**

**First: The Results of the Study:** The study found the following results:

1 – The obstacles that the auditor may face cause difficulties limit the procedures that the auditor finds necessary to be addressed before making the audit procedures of computerized accounting information systems, such as determining the possibility of dealing with the main issues like uncertainty, how to identify it and what should be done, if they occur, because of their serious threat as a result of the likelihood of recurrence of the event (incidence of threat).

2 - The auditor measures the cost of the use of information technology tools in the audit; he also measures the risks of using these tools to analyze the risks and revenues by using the tools of information technology in auditing computerized accounting information systems.

3 - The auditor monitors the costs of provider of information technology systems and identifies the sources and costs of maintenance when using the tools of information technology, in order to determine the cost efficiency in terms of identifying the maintenance and development of the accounting system from inside or outside the bank.

4 - There is control by auditors on networks of posting the accounting data between authorized people in order to minimize the risk of auditing as much as possible, and this means that there is control over the security of accounting information from unauthorized access or not allow illegal change for data and accounting information system in banks.

5 - The existence of mechanisms for the appointment in the commercial banks according to certain bases, through the appointment of qualified and experienced people in the area of auditing computerized accounting information systems, and this leads to reduce the risk of audit and increase control of the workers in the electronic work environment.

6 – Writing the report with the participation of the Bank's internal audit with its management through the censorship to determine the people who are authorized to have access to the report of the internal auditor, through the presence of a committee defines the powers and responsibilities of each employee who is relevant to the accounting system.

7 - Internal Auditor's report provides an automated link between the performed work, the collection of information, assessments of auditor and information used in the company through the use of information technology tools and computer networks to transfer the new instructions related to the accounting system or any development on it.

8 - The auditor monitors the changes in the accounting system from time to time, including the terms of the financial statements, monitoring changes on expenses and finding the rates of increase or decrease on those items.

9 - The external auditor reviews the bank's policies to ensure its comprehensiveness, and thus in turn supports the concepts of control and information security.

**Second: Recommendations:** In the light of previous results, it can be recommended to:

1 - Increase the necessary audit procedures to assess the old computers in trying to determine the extent of using the computerized information systems.

2 - The auditor determines the value of the data or information itself depending on the predetermination of the level of sensitivity of the information to the company.

3 - Increase the necessary audit procedures to assess the costs and benefits of successive increase of the level of security of information technology.

4 - The auditor makes a preliminary report about risks of control to make sure of every level of financial account balances or the set of operations.

5 - IT auditor takes into account the risk of various types of audit and tries to mitigate them as much as possible.

6 - The auditor's report contains the confirmation of information security policies and the reliability of the information, as well as identifying work-related hazards that resulting mostly from information technology.

7 - The auditor's report has the connection methods for auditors' working papers and graphics, as well as gathers information about changes in the Bank's business, resulting from information technology.

## References:

- Eldahrawi, Kamal Al-Din, "The Development of Accounting Information Systems", first edition, University Publishing House, Alexandria, 1987, p 1.
- Al-Khatib, Subhi and Etr, Omar, "Introduction to Accounting Information Systems," University Publishing House, Alexandria, 1993, p 18.
- Al-Hasson, Adel and Qaisi, Khalid, "Accounting Systems", first part, the first edition, General Cultural Affairs House, Baghdad, 1991, p 36.
- Al-Husban, Atallah Ahmed, "How do IT systems Auditors Deal with International Auditing Standards Special for Information Systems Environment to Maintain the Security and Confidentiality of the Information in Commercial Banks", Journal of the Faculty of Baghdad University, Baghdad, Iraq, 2009, p 347.
- Joma'a, Ahmed Helmi, "The Responsibility of the Auditor on Internal Control and Risk Assessment when Applying International Auditing Standards", Journal of the auditor, Issue 44 +45, Amman, Jordan, October 2000, p 3.
- Hamdoun, Talal, "The Extent of the Use of Information Technology in the Audit Process in Palestine", Journal of Islamic Studies, Islamic University Magazine, 2008, p 913.
- Dahmash, Naim, "Window on the Internal Auditor's Report", Auditor magazine, Issue 48, Amman, Jordan, 2001, p 11.
- Dahmash, Naim, "An Opinion on the Personal Qualities that the Auditor Should be Characterized by", Auditor magazine, Issue 49 and 50, Amman, Jordan, April 2002, pp. 24-25.
- Rdaydeh, Murad Khalid, "The Availability of Data Security Requirements, Accounting Information and Automatic Storage Means in Jordanian Banks", Journal of Irbid for Research and Studies, Irbid National University, Volume XIV, first issue, December 2010, p 40.
- Rehan, Mohammed, "Accounting Information Systems", first edition, Ein Shams library, Cairo, 1994, p. 49.
- Hajar, Abdulmalik, "Accounting Information Systems", Dar Al-Feker, first edition, Sana'a, 1997, p 29.
- Ayoub, Nadia, "Information Systems and Administrative Decision-Making", Journal of Damascus University, Issue. 11, Damascus, 1988, p 25.
- Dalal , Chetan , "Advanced Tools to Tackle Fraud and collusion" , Fraud \_IIA , Vol. 3, September 15, 2000
- Grand , Charles , "Information Technology in Auditing" , IIA, 2001

Jagdish,, Pathak ,”IT Audit Approach , Internal Control , And Audit Decisions , Part 3, IIA, Vol. 6, June 1 , 2003p3..

IIA,” Managing Security Information” May 2001, [www.findarticles.com](http://www.findarticles.com).,p2.

Lawrence, Richter," Risky Business: Internal Audit Team up with the Audit Committee to Tackle" ,IT Security Needs,IIA.

McCollum , Tim ,” Technology Forum Addresses Desktop Management”, Audit and Control , IIA, Vol. 6 , August 15 , 2003.

Ozier , Will , " A Framework for an Automated Risk Assessment Tool" , IIA, Vol. 2, August 15, 1999

Oliphant , Alan," An Introduction to Computer Auditing – Part 2 " , New IT Auditor , IIA , Vol. 1 , October 1 , 1998.

Oliphant , Alan , "IT Auditors Certification" , New IT Auditor , IIA , Vol. 15, December 1 , 2002

Stout, G.A , " Improving the Decision Making for Information Security" , PhD dissertation , Nova South Eastern University.

Taylor , Donald and Glezen , William , " Auditing" ,Tenth Edition , Prentice Hall , 2002, PP 270-271.